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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,148	01/14/2004	Nian Yang	AMD-AF01214	4639
7590 11/29/2005 WAGNER, MURABITO & HAO LLP Third Floor Two North Market Street San Jose, CA 95113			EXAMINER PHAM, LONG	
			ART UNIT 2814	PAPER NUMBER

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/758,148	YANG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Long Pham	2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 and 10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

**DETAILED ACTION**

***Response to Arguments***

Applicant's arguments with respect to claims 1-6 and 10 have been considered but are moot in view of the new ground(s) of rejection.

**Rejections and/or objections necessitated by the amendments**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 3, 4, 5, 6, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kloen et al. (WO 00/350013).

With respect to claim 1, Kloen et al. teach a semiconductor structure comprising (see fig. 2 and associated text):

A pad 3 wherein said pad area comprises:

A substrate 6;

A first layer of metal 16 disposed above said substrate wherein an active device is deposited below said first metal layer;

A second layer of metal 19 disposed above said first layer of metal;

A layer of dielectric 17 disposed between said first layer of metal and said second layer of metal;

A via disposed within said dielectric layer wherein said via electrically couples said first and said second metal layers; and

One subsequent layer of metal 18 between said first and second layers of metal, wherein said via comprises one via wherein one of said via electrically couples one of subsequent layer, said first and second layers of metal; and

Said active device of said semiconductor structure disposed below said pad area and within said substrate wherein one of via electrically couples said active device with one of said metal layers.

With respect to claim 2, Kloen et al. further teach active device comprises a transistor. See fig. 2.

With respect to claims 3 and 4, Kloen et al. further teach that the active device is a plurality of MOS devices but fail to teach that the active device is a memory device (which inherently performs logic or memory function).

However, It would have been obvious to one of ordinary skill in the art of making semiconductor devices to include memory or logic devices in the active area in the device of Kloen et al. to obtain a memory system with reduced complexity. See page 3, lines 1-2.

With respect to claims 5 and 6, Kloen et al. further teach a non-pad area (areas not covered by the pad 3) bounded at least in part by said pad area but fail to teach forming a memory device in the non-pad area.

However, It would have been obvious to one of ordinary skill in the art of making semiconductor devices to include memory or logic devices in the active area not covered by the pad in the device of Kloen et al. to obtain a memory system with reduced complexity. See page 3, lines 1-2.

With respect to claim 10, Kloen et al. further teach a pad apparatus for a semiconductor comprising:

A substrate 6;

A first layer of metal disposed above said substrate;

A second layer of metal disposed above said first layer of metal;

A layer of dielectric 17 disposed between said first metal layer and said second metal layer;

A via disposed within said dielectric layer wherein said via electrically couples said first and said second layers of metal; and

One of the metal disposed between said first and said second metal layers, wherein said via comprises one of via wherein one of said via electrically couples one of subsequent layer, said first and second layers of metal; and

An active component wherein said active component is disposed within said substrate and wherein one of via electrically couples said active device with one of said layers or metal.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Long Pham whose telephone number is 571-272-1714. The examiner can normally be reached on Mon-Frid, 10am to 5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 571-272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Long Pham  
Primary Examiner  
Art Unit 2814

LP